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# Research into the Education of (a) Practice:

*outlining a profile in a context of profiles*

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**Keywords:** education, design-research , richness of differences, preconfigured, practice.

*Abstract*

In this paper, I will present and explain one model (profile) of architectural education, that can be further discussed in the face to face setting of this EAAE conference.

Firstly, I will briefly present the curriculum of architectural education as it has originated and evolved in the climate of the 150 year tradition of Sint-Lucas School of Architecture in Belgium, and its impact on (contemporary and future) architectural practice of architects who are licensed to build.

Subsequently, I will outline the position of Sint-Lucas in the research landscape of schools of architecture today, pointing at the importance and richness of differences between values and traditions for the benefit of all the partners involved.

Then, I will briefly explain my own doctoral research, and situate it in the tradition of Sint-Lucas, in an attempt to preconfigure one future direction for the profession embedded in a transhistorical ground, of which transdisciplinarity from the drawing board to the construction site has been, is, and will be crucial.

Finally, I will sketch some headlines of a (renewed) curriculum for architectural education, that can prepare, shape and face this preconfigured architectural practice.

*History*

The school was founded in 1862 in Ghent, Belgium, as an institution for education in the Arts and Architecture, which were closely affiliated from the start. For this reason, the program of architectural education of Sint-Lucas takes a specific position, generated from and by the field of the Arts (drawing, painting, sculpture), unlike other schools of architecture all over Europe that often have originated from engineering faculties at universities.

The school's educational program was built around craftsmanship as the backbone of artistic and architectural creation, hence of architectural education. As such, Sint-Lucas was closely connected with the Arts and Crafts movement in Great Britain, and with the New Gothic ideas of Violet-le-Duc (1814-1879), whose seminal book *Dictionnaire Raisonné de l'Architecture Française du XI° au XVI° Siècle* (Viollet-le-Duc 1868) has had a major influence on Sint-Lucas: Sint-Lucas, for decades, was famous for its Neo-Gothic architectural stance. The school has been a forerunner of this 'craftly' educational approach on the European continent, positioning the act of making in substance at the center of the proces of architectural creation, related to John Ruskin's approach. "John Ruskin (1819-1900), in his *Seven Lamps of Architecture* (Ruskin 1849) teaches us about the 'lamps' that are capable of enlightening the darkness (…) The book can be seen as a codification of 19th Century thinking behind the Gothic Revival, publicly debated by A.W.N. Pugin (1812-1852), in the cultural climate of the Arts and Crafts Movement propagated by William Morris (1834-1896). Ruskin suggests "an honest architecture, with no veneers, finishes, hidden support nor machined mouldings, and that beauty must be derived from nature and crafted by man (Curl 2006).

Ruskin celebrated the craftsman, as he celebrates the substance the craftsman works with" (Van Den Berghe 2012).

The skill of drawing—which must be considered as a craft among the crafts of making—has taken a central place in the so-called 'method of Sint-Lucas', and remains as one of its strongest traditions. This method is a meticulous combination of 'observational drawing' ('archaeological') on the one hand (drawing after nature, learning to see what we see), and 'compositional drawing' ('prophetical') on the other hand (drawing after imagination, learning to draw what we dream), in order to facilitate the students' abilities 'to dream' to be nurtured by his/her abilities to observe, which in its own right can enhance his/her abilities 'to make' more precise images of what he/she is able 'to dream'. This brings drawing at the centre of the process of artistic and architectural creation.

I will continue on these aspects of craft and substance, and on drawing, in the upcoming paragraphs.

In this cultural climate, Sint-Lucas School of Architecture was founded and took a start, and it continued to work within this paradigm of craftsmanship deep into the 1930's. Then, with the Second World War, and the urge to rebuild a destroyed Europe after it, Sint-Lucas School of Architecture has rapidly evolved into Twentieth Century Modernism, forming generations of architects who could, and still can, stand to their contemporaries. With it, the belief in an architecture procured by industrial serial production had grown and took the place of handcrafted 'one- piece' productions, and the conviction that a 'scientific' architecture based on universal laws has been embraced up till the 1950's and 1960's, and incorporated in the design studio activities. By the end of the 1960's, however, Sint-Lucas transformed itself through the bottom-up student movement that shook Western Europe and North America, inspired by the critical philosophical theory of the Frankfurter Schule, proliferated through the writings of Theodor Adorno, Max Horkheimer and Herbert Marcuse. This fierce criticism, formulated by the student movement at Sint-Lucas, instated a new staff at the school. The students aimed their criticism at Modernism's uniformity and 'equalism', rooted in the age of Enlightenment that, according to them, had degenerated into the opposite of its own aspirations. The students of Sint-Lucas, in fact, were demanding an educational program shaped around criticism towards both their inherited Modernism and the Arts and Crafts roots of the school. Both—at that time—had become a doctrine, suppressive towards the non-identical, which felt like a hollow shell running out of time. More likely, the students wanted to re-invent and re-vitalise the inherited 'craftsmanship', especially with its potential concerning the 'non identical', the higly personal, which they wanted to embed in an early process of academisation. As for the latter, they demanded, and obtained, what they called 'academic education of the long type', which was the buzzword back then for lifting architectural education (among others, like higher education in music, and art) at the critical level of education at universities.

In the 1970's and 1980's, this endeavour shifted into Post-Modernism, as we have seen in many schools of architecture, which also included an architectural practice that more and more astranged from the process of making in substance, in favour of a more 'conceptual' approach based on architectural theories (typologies, quotations, narratives). The aforementioned universal laws of a self confident Modernism had staggered, and the focus of creation processes in architecture was shifting to more careful, negotiated, contextualised and well considered stances in accordance with the philosophical shifts that were changing the world. Also, 'Substance', which had been at the center of the process of architectural creation, hence being the backbone of architectural education like it had been in the early days and throughout the Art-Deco and Modernist era's, was softly moving to the background, as the foreground was being taken by a more conceptual, theoretical and historical architectural discourse. Architects who had been trained so as to be licensed to build, were transforming

into architects who were licensed to speak, to talk about (their) architecture in a theorizing mood. To talk about architecture was occupying the foreground, to build (this) architecture in many cases was a mere consequence of this espoused architectural discourse.[1]

In recent years, this rather conceptual, theoretical and historical approach has gradually faded into the background of Sint-Lucas again, without completely disappearing though. The more recent Denk!-studio (Think! studio) and Doe!-studio (Do! studio), have become the merging fields of didactics applied at Sint-Lucas today, which connect the initial 'making' from the early days of the school with the more theoretical and historical 'thinking' that had filtered through in the 1970's and 1980's, bringing 'making' and 'thinking' in a meaningful balance, relevant in the prospect of the future architectural practices the students are being prepared for at Sint-Lucas: architects who are licensed to build.

*Architectural Practice and Research*

Hence, the position of Sint-Lucas in the landscape of schools of architecture today is the result of constant careful adjustments, as briefly outlined above. But there has been a more recent development that has had a major influence on Sint-Lucas's position in the aforementioned landscape.

Within the Bologna Process (1999), and the forthcoming academisation, Sint-Lucas has—like many other schools of architecture that have originated from the field of art instead of the academic world of universities—embarked on research. It is important to note that, in this process, Sint-Lucas has had to closely investigate its identity: what is it that makes its identity specific, and can this specificity be connected with appropriate research strategies and paradigms?

Sint-Lucas has chosen not to 'imitate' the traditional academic research paradigms, as applied at universities, because this would oppose its own origins (see above), and its core business, which is designing to produce good architectural practice, more than researching in Theory, History and Criticism (THC), which is the domain of universities who are better in it, since they have this strong tradition in natural sciences, humanities and social sciences. Instead, for Sint-Lucas—and there were many schools of architecture all over Europe that are in a comparable situation—a more specific type of research in architecture, 'research in/by/through design', was appropriate and legitimate for the field, and it might produce a different kind of new knowledge, perhaps otherwise remaining unknown, but so relevant to the field of architectural education, and hence for the forthcoming architectural practice.

From the mid 1990's, this specific research was becoming 'thinkable'. It was the time when the debate on possible 'kinds' of research was flaming up, which lead the staff of Sint-Lucas to organise a first international conference on 'research in/by/through design': *The Unthinkable Doctorate*, in 2005 (Verbeke 2005).

In this intellectual atmosphere, Sint-Lucas has strenghtened its specific design-research approach by organising a pre-doctoral education program: the Research Training Sessions (RTS). This two year program, initiated by Johan Verbeke, is meant to introduce future researchers, who want to investigate (in) the medium of design itself (as the core business of architectural practice and architectural education Sint-Lucas has a strong tradition in) into epistelomogical matters and different design-research paradigms. The RTS program enables participants to obtain an overview on different design-research approaches, to position their own research topics in the range of paradigms, and to discuss and decide on which paradigm might be the most suitable with regards to their own research themes.

It is important to note that the organisation of this first international conference, *The Unthinkable Doctorate* (Verbeke 2005), the Research Training Sessions (that started in 2005,

[1] The fierce economic crisis of that time may also explain this: .

and still ongoing), a second international conference in 2009, *Communicating (by) Design* (Verbeke and Jakimowicz 2009), and the upcoming third international conference on design-research in May 2013, *Knowing (by) Designing*, at Sint-Lucas School of Architecture, has become possible through—at the same time has co-generated—an international network that connects schools of architecture all over Europe and the world. Also, the Research Training Sessions, that are driven by the visits of international tutors, who provide input from their specific research approaches and fields through eight seminars over a two-year program, have strongly contributed to the cohesion of this network, not only between tutors and participants, but also between tutors and the different institutions they represent. Whereas the first batches of RTS participants have been members of the Sint-Lucas teaching staff, wanting to embark on design-research, the RTS program has gradually been opened up to participants coming from other fields and institutions, which highly contributed to the transdisciplinarity and the affiliation of Sint-Lucas with its international partners, not only institutionally, but also as a community 'on the ground'.

We can say that this whole evolution, ignited by the Bologna Process, prepared and executed by the board of Sint-Lucas between 1995, and still ongoing today, has thouroughly transformed Sint-Lucas School of Architecture. A network of international alliances has found its legitimate place in the European landscape of schools of architecture, standing side by side—and affiliating with—the network of faculties of architecture at universities, mostly incorporated in engineering faculties.

Within the Bologna Process, and to facilitate the process of academisation, Sint-Lucas School of Architecture has embarked on research, together with other schools of art.[2] As a 'traditional' school of architecture, coming forth from the arts, Sint-Lucas has become the Faculty of Architecture in the Leuven University, and educates students to become architects. This new Leuven University Faculty of Architecture is forming 'non-identical twins' with ASRO (Architectuur Stedenbouw en Ruimtelijke Ordening). The latter is part of the Leuven University Faculty of Civil Engineering and educates students to become engineer-architects. Both have now been brought next to each other as two types of architectural education: one coming forth from 'the arts' (Sint-Lucas), one coming forth from 'science' (ASRO).

Of course, there is a healthy rivalry between those two partners, but it is my belief that together they allow for a more refined and complete coverage of the beloved field of architecture. Moreover, both partners share a common Research Department, where their research paradigms can coexist so as to serve the field of architecture with a broad array of research possibilities in Design-Research and in Theory, History and Criticism, where their networks can mutually strengthen each other, and where focusses can differ and interests can merge. After a long period of preparations, both partners by now have become aware of the benefits of this partnership that can improve the field of architecture.

The RTS program had offered us a room with a view on a landscape of research paradigms, in which we could do observations so as to find our righteous place. Offering this room with a view, the RTS program was pointing at the importance and richness of differences between paradigms and cultures at the benefit of all the partners involved in and beyond the field of architecture.

Finally, the co-existence of faculties (see above) encapsulates this richness of differences and cultures to the full extent.

[2] Sint-Lucas School of Architecture, Sint-Lucas School of Arts, Sint-Lukas Brussels, NARAFI, and Lemmens School of Music form LUCA (Leuven University College of Arts).

Being an alumnus of Sint-Lucas, where I started my architectural education in late 1979 and graduated in 1984, and belonging to the teaching staff since 2005, I started the RTS program (see above), and I graduated in early 2009. Then, I immediately embarked on my doctoral research in 2009 at the Royal Melbourne Institute of Technology University (RMIT), in Melbourne, Australia. I successfully did my Ph.D defence on 23 November 2012.

Through the RTS program, the differences between Mode 1 and Mode 2 knowledge (Gibbons et al. 1994), and the potential of the Mode 2 knowledge production have become clear. It was becoming clear to the research community of Sint-Lucas and its affiliated schools of architecture that 'Research in/by/through design' could be conducted by actively going into the design processes so as to witness its uncertainties (Nowotny, Scott and Gibbons 2001), yet working according to viable standards of rigour and honesty (Glanville 2009).

Being a reflective practitioner (Schön 1983), who reflects on what it is that constitutes a critical architectural practice (since 1987), it was evident to me that I would 'research in/by/through design', because designing is my natural intellectual habitat through which I can produce new original communicable knowledge (Dunin-Woyseth 2009) at the benefit of the domain of architectural practice—a substantial part of the field of architecture.

When I embarked on my Ph.D, it was my firm belief that an architectural design process started with 'to dream' a poetic image[3], that subsequently and unidirectionally had to become 'to make' in substance by the genius mind of the architect that should impose its will on the ignorant substance of the world. I estimated that I should investigate the mechanisms at work between 'to dream' and 'to make', and I was confident that my research simply would be to map this unidirectional process from 'to dream' to 'to make'. But by going deeper in my investigations I was becoming aware of the false nature of this assumed unidirectionality.

Through investigations on my critical practice in the context of other critical practices, through reading, through making new designs in the core of this Ph.D, through observations of these design processes, through self-validations and peer reviewed presentations, through discussions with academics and peers, and through writing, I have worked my way through this research, and made my wondrous discoveries.

Within the limited range of this paper, I will only briefly sketch the headlines of my research.[4]

As for the research theme:

My contribution to the field is manifold, but all elements of it hide under my basic argument: a creation process in architecture all too automatically is considered as a unidirectional process that starts with the poetic image (π), that subsequently is substantiated on the construction site (©).

π → ©

In my research, I have investigated whether this unidirectionality was false, or not.

As for the research method:

[3] The concept of the poetic image has been brought forward by Vitruvius, who called it the architectural idea, and forthcoming from this, Alberto Pérez-Gómez has further elaborated on it, "… the poetic image, called after Vitruvius the architectural idea (the images that are proposed by the architect, issuing from his or her mind's eye" (Pérez-Gómez 2006.a).

[4] For the full reading, I refer to my Ph.D *Theatre of Operations, or: Construction Site as Architectural Design* (Van Den Berghe 2012).

The data of this research have been generated by design actions and observations on design actions—what I have called 'the interrogation of the practice', and by a literature study.[5]

My doctoral research is Qualitative Research[6] (Strauss 1987), and has borrowed methods from social science, and more specifically Grounded Theory Research (Strauss and Corbin 1989)(Corbin and Strauss 1990).

Through the subsequent stages of data collecting and data processing (mainly memo writing and memo drawing), which were the stages of 'open coding', 'axial coding' and 'selective coding' (Corbin and Strauss 1990), I have started to break through habitual ways of thinking, and a set of new concepts has emerged, that subsequently began to group around the core Concept of Section.

In the meantime, and by doing so, my research has confirmed that, and clarified how the drawing-as-section appears to be the continuous hyphen between the subsequent stages of architectural creation, which includes construction practice on the building site. With the latter, transdisciplinarity enters and enriches the process of architectural creation.

The basic lines of the drawing-as-section[7], as put on paper by the architect-as-draftsman, bring the characteristics of the vertical section of the site (landscape) on the drawing board, where the drawing-as-section becomes the section-as-excavation in both the site and the mind of the architect-as-draftsman, and hence the section-as-excavation becomes the excavation-as-construction site, where the architect-as-draftsman becomes the master builder (ideally they are the same person) who traces (draws) the vertical section of the edifice into the vertical section of the substance of the landscape, and in the substance of the edifice.

The drawing-as-section appears to permanently carry the *Translations from Drawing to Building* (Evans 1997), and vice-versa, as the negotiating space between the process of creation and the architect (to dream), but also between the construction site (to make) and the drawing board.

Then, I could get a better grip on my basic argument through the gradual discovery in my mental space (van Schaik 2008), out of which a series of four Basic Design Themes and two Aprioristic Conditions have emerged.[8]

Basic Design Themes:
1. Thickness
2. Substance
3. Depth
4. Darkness

Aprioristic Conditions:
1. The Emergence of Thickness (and The Concept of Section);
2. Depth as the First Dimension.

The thourough investigation of my critical practice in the context of critical practices has generated a set of concepts:

[5] The literature study consisted of reading, and investigating works of other critical architectural practices. I have referred to these works in the same way I have referred to written sources, and as such they have an equal status in the list of references of the Ph.D.

[6] In the meaning of: as different from Quantitative Research, for instance, applied in Natural Sciences.

[7] Section, here, (almost) always means: the vertical (longitudinal or traverse) section.

[8] I have asked for expert input for my research from a clinical psychologist, in order to structure the sometimes confronting and conflicting information that was coming to the surface, and in order to guide this information to an appropriate place in my mind, and from there in my research. This expert input helped to keep this part of the research on the track of rigour.

1. The Eye Level in the Perspective / the Labyrinthine;
2. Borrowing from Tektonikos;
3. The Chronological Drawing / Chronology on the Drawing Table;
4. Designing in Substance / Substance on the Drawing Table;
5. The X-Ray-Drawing.

These concepts, through the selective coding (Corbin and Strauss 1990), appeared to group around the Core Concept of Section.

Subsequently, I have found that the Core Concept of Section, with the other five concepts around it, is at work in the Aprioristic Conditions, so as to perform the Basic Design Themes.

The Core Concept of Section, then and there, is the necessary tool that permits the master builder 'to anatomise': the Emergence of Thickness[9] is what has to be anatomised, the Concept of Section is there to anatomise with, and Depth[10] is what I anatomise for, in order to find or make it.

The Concept of Section, thus, is indispensable so as

| | | |
|---|---|---|
| to perform | | |
| ('to make' Thickness of Substance) | in order to generate | ('to dream' Depth of Darkness), |
| or | | |
| to perform (to make) | in order to generate | (to dream), |
| or | | |
| to perform © | in order to generate | π |
| or | | |
| to perform construction practice | in order to generate | the poetic image |

Through the subsequent research steps, my research has revealed that the assumed unidirectionality from 'to dream' to 'to make' is false, and that the process of creation, which includes the substantiation, is much more negotiated, two-directional, and that, in my critical practice, and in the critical practices of architects and cultural actors who contribute to my argument, the poetic image (π) is often triggered by construction practice (©). The dream is triggered by the Substance.

π ←→ ©

These concepts co-operate (see above) so as to become a specific moment in a specific place, merging the moment of 'to dream' (π) with the place of 'to make' (©) into an energetic 'momentum', the acute moment of creation when the designing architect can place himself/herself at the strategic intersection of time (the moment of 'to dream') and space (the place of 'to make'). I have called this moment of acuteness the State of Emergency.

Through this research, I have found relevant connections between the basic stances of Sint-Lucas School of Architecture from its early beginnings (see above), and actual and future architectural practice. These connections are establishable through two elements:

[9] Of the landscape, and of the Substance that comes forth from it, and with which we build (to make).

[10] In architecture, as the counterpoint of the infinite Cartesian thinning, and enhanced by taking depth as the first of the three dimensions (with width as the second, and length as the third dimension). For further reading I strongly recommend *The Space of Architecture: Meaning as Presence and Representation,* by Alberto Pérez-Gómez, A. (2006.b).

firstly, the careful and critical application of the craft of architectural drawing (the 'Method of Sint-Lucas'—see above). Here, it is my suggestion—as my research has reveiled—to specifically apply sections: the drawing-as-section that works as the supportive hyphen throughout the whole process of creation, which includes its substantiation, which 'draws a continuous line' throughout the process of creation;

secondly, through meticulous craftsmanship applied in the careful transactions of and with the substance of the world.

It is my strong belief that these two elements enable the designing architect to precisely define the intersection of the time of 'to dream' with the place of 'to make', and to consciously position the designing architect at this critical intersection, where he/she resides in the State of Emergency. So doing, these two elements can strongly support the preconfiguration of one future direction for the profession, embedded in a transhistorical ground.

Together, these two elements constitute the backbone of (my) future critical architectural practice.

*Architectural Education*

Finally, I will sketch some headlines of a (renewed) curriculum for architectural education, that can prepare, shape and face this preconfigured critical architectural practice.

As a potential herald of what may become a modified curriculum, I am currently starting a design exercise with third year students at Sint-Lucas School of Architecture. I am asking the students to directly design in substance, starting from a fiction that includes the availability of 2.500.000 orange bricks, with which an infill of twelve dwellings and a small factory has to be built in the interstices between existing free standing dwellings in an average suburbia.

Then, I demand the (almost) exclusive application of the drawing-as-section in the process of creation, and to vividly imagine the drawing-as-section as the section-as-excavation on the site, which then becomes the excavation-as-construction site in their imagination, so as to immediately design 'in sections' on the imagined construction site. Drawing as a craft, also, as what Juhani Pallasmaa would call *The Thinking Hand* (Pallasmaa 2009).

Here, I also recall Louis Kahn, when he teaches us that "… in Gothic times, architects built in solid stones (…) If we would train ourselves to draw as we build, from the bottom up, when we do, stopping our pencil to make a mark at the joints of pouring or erecting, ornament would grow out of our love for the expression of method (…) The desire to express how it is done would filter through the entire society of building, to architect, engineer, builder and draftsman" (Frampton 1980).

But, why this urgent emphasis on sections? Well, there are two reasons, I think.

Firstly, this rigorous application of the Concept of Section allows for a relentless anatomisation of the substance of the world in which architecture is implanted, and out of which architecture is made, so as to see, investigate and undestand the nature of this substance.

Secondly, because these sections allow the student to anatomise the construction process with its inevitable sequence of steps it takes to build: the logic and chronology—chrono-logic—of building, based on the inevitable vertical direction of gravity, which students have to learn, understand, rehearse and practice as future master builders. The drawing-as-section preconfigures sections-as-excavations for foundation slabs in concrete that bear brick walls, sections of wooden window frames, steel lintels, wooden girders of the roof. By doing so, the student critically analyses—anatomises—the construction process yet starts to build, literally and metaphorically, his/her own critical architectural practice.

Then, the student will be Bachelor of Architecture, if he/she succeeds. Subsequently, in a second move to modify the current curriculum, the student should be allowed to continue and further rehearse and refine this method in his/her two master years to come. Perhaps, this renewed curriculum for architectural education can prepare, shape and face this preconfigured critical architectural practice.

To organise this design studio as an intersubjective platform of understanding allows for a direct and meaningful dissemination of my aforementioned research results, and it is also meant to affect the (critical, I may hope) architectural practices of future architects who are licensed to build.

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